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60/421,001	25 October 2002 (25.10.2002)	US
60/421,510	28 October 2002 (28.10.2002)	US
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(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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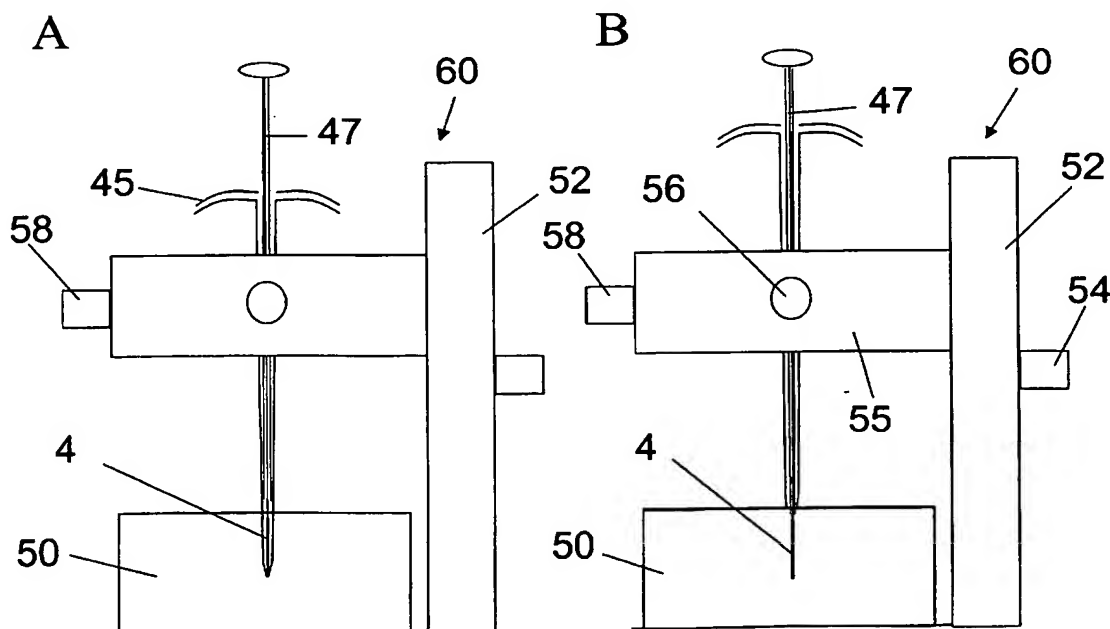
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[Continued on next page]

(54) Title: MICRO-DEVICES AND ANALYTICAL PROCEDURES FOR INVESTIGATION OF BIOLOGICAL SYSTEMS



(57) Abstract: Fibres with an extraction phase coated thereon in combination with a positioning device are described to perform adsorption of components of interest from an animal or animal tissue for the investigation of living systems. A number of interfaces to analytical instrumentation are disclosed including mass spectrometry, LC/MS, MALDI and CE as well as direct spectroscopic on-fibre measurement.

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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

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## Published:

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## (71) Applicant and

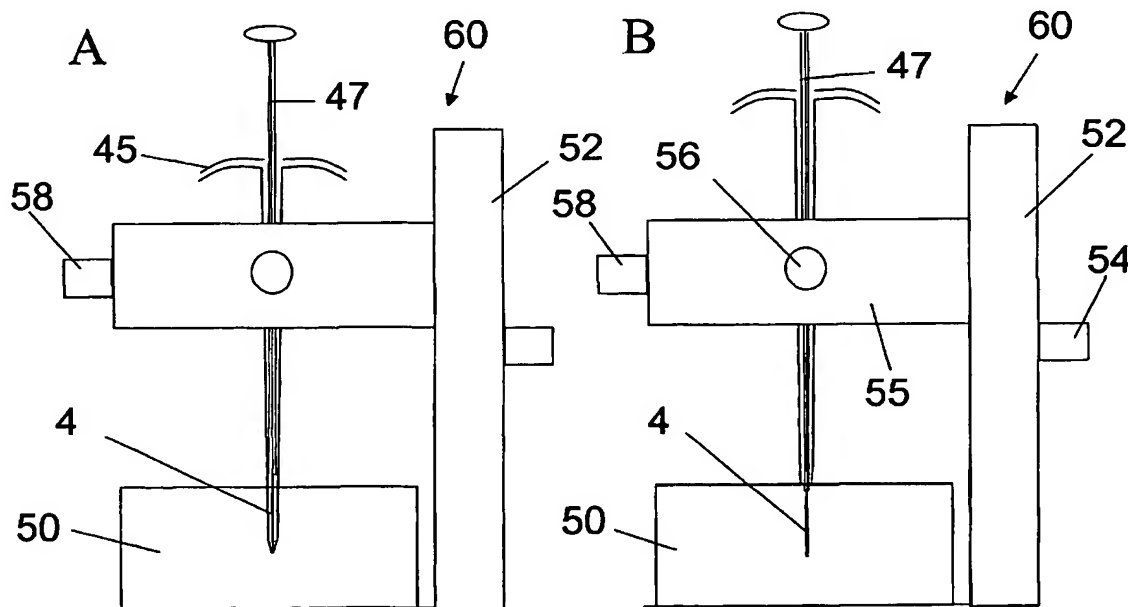
(72) Inventor: PAWLISZYN, Janusz, B. [CA/CA]; 383 Dun-  
vegan Drive, Waterloo, Ontario N2K 1W7 (CA).

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(74) Agents: MARSMAN, Kathleen, E. et al.; Borden Ladner  
Gervais LLP, World Exchange Plaza, 100 Queen Street,  
Suite 1100, Ottawa, Ontario K1P 1J9 (CA).

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# INTERNATIONAL SEARCH REPORT

International Application No

PCT/CA 03/00311

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 A61B10/00 G01N1/34

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61B G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 691 206 A (PAWLISZYN JANUSZ B) 25 November 1997 (1997-11-25) cited in the application column 2, line 62 - column 4, line 5 column 5, line 12 - line 22; figures 1-3	42-82
X	ZHOUYAO ZHANG ET AL: "SOLID-PHASE MICROEXTRACTION" ANALYTICAL CHEMISTRY, AMERICAN CHEMICAL SOCIETY, COLUMBUS, US, vol. 66, no. 17, 1 September 1994 (1994-09-01), pages 844A-853A, XP000466960 ISSN: 0003-2700 figure 1	42



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

### \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

12 June 2003

Date of mailing of the international search report

10. 10. 2003

Name and mailing address of the ISA

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Authorized officer

Moers, R.

## INTERNATIONAL SEARCH REPORT

Intern. Patent Application No

PCT/CA 03/00311

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 479 923 A (RANTALA BOERJE T) 2 January 1996 (1996-01-02) abstract; figure 1 -----	65
A	DE 199 05 239 A (LUETH TIM ;WENDT OLIVER (DE); OELLINGER JOHANN (DE)) 31 August 2000 (2000-08-31) abstract; figures 3,4 -----	66
A	US 5 693 228 A (GEPPERT HELMUT GUNTHER-HEINZ ET AL) 2 December 1997 (1997-12-02) abstract; figures 1,2 -----	77,78

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/CA 03/00311

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 1-41, 83-92  
because they relate to subject matter not required to be searched by this Authority, namely:  
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

42-82

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.1

Claims Nos.: 1-41, 83-92

Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 42-82

Device for adsorbing components from an animal comprising one or more coated fibres and a positioning device for guiding said fibres into the animal.

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2. claims: 93-95

Method and device for identifying components in a multiwell comprising a plurality of coated fibres and a positioning device for guiding said plurality fibres into the multiwell and afterwards into an analytical instrument.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/CA 03/00311

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5691206	A	25-11-1997	US 6537827 B1	25-03-2003
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